

What is claimed is:

1. A sensor for automatic doors comprising:
a plurality of sensor sets, each of the sensor sets being composed of transmission means and receiving means located opposite to each other across an object detection area, so that the sensor determines the presence or absence of an object within the object detection area, depending on whether a light beam emitted from each transmission means is received by the receiving means of the same sensor set;

data acquisition means for acquiring light acceptance data sent from each receiving means; and

data exchange means for exchanging light acceptance data sent from one of the receiving means with those sent from any of the other receiving means, in order that the data acquisition means can acquire predetermined light acceptance data which concern a light beam emitted from one of the transmission means and which are received by the opposite receiving means,

the data exchange action being carried out in the case where the data acquisition means fails to acquire the predetermined light acceptance data, provided that the transmission means emits a light beam in the absence of an object within the object detection area.

2. A sensor for automatic doors according to claim 1,

wherein the sensor has two such sensor sets, and

wherein the data exchange means exchanges light acceptance data sent from one of the two receiving means with those sent from the other receiving means,

the data exchange action being carried out in the case where the data acquisition means fails to acquire the predetermined light acceptance data, provided that either of the two transmission means emits a light beam in the absence of an object within the object detection area.

3. A sensor for automatic doors according to claim 1,

wherein each of the transmission means is allowed, one by one, to emit a light beam,

wherein the data exchange means exchanges light transmission data sent from receiving means which receives the greatest amount of light, with those sent from receiving means located opposite to the transmission means which emits a light beam, in order that the data acquisition means can acquire the former data as the latter data,

the data exchange action being carried out in the case where the data acquisition means fails to acquire the predetermined light transmission data, provided that each transmission means emits, by turns, a light beam in the absence of an object within the object detection area.

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